

ABSTRACT

[00050] The present invention is directed to a system that enables the simultaneous remote monitoring of a plurality of infants' skin temperatures. The system comprises an electronic circuit that combines the functions of sensing and multiple-channel transmitting, a pre-deployment temperature bath for calibration of the temperature sensor(s), and a receiving and reporting station for centralized monitoring the infants' skin temperatures. The present invention is further directed to a temperature sensor that measures the temperature and transmits the data in multiple channels to a remote receiver. In one embodiment, the temperature sensor comprises a ring oscillator, having a plurality of odd number of inverters, and the ring oscillator is capable of utilizing less than all of the inverters in the ring to modulate the frequency of the signal. In another embodiment, the temperature sensor comprises one inverter and a plurality of delay elements and sensor transmits phase shifted signals to modulate the signals. A signal processing method is also disclosed.